TRANSACTIONS
of the
AMERICAN FISHERIES SOCIETY

4573 X

LIBRARY
NATIONAL MARINE FISHERIES SERVICE
HONOLULU LABORATORY
P. O. BOX 3830
HONOLULU, HAWAII 96812

Volume 102, 1973

PUBLISHED QUARTERLY AT LAWRENCE, KANSAS

by

THE AMERICAN FISHERIES SOCIETY

AMERICAN FISHERIES SOCIETY

The American Fisheries Society was organized in 1870 and was incorporated in 1911 in Washington, D. C. Its objectives are conservation, development, and wise utilization of recreational and commercial fisheries, promotion of all branches of fisheries science and practice, and exchange and dissemination of knowledge about fish, fisheries, and related subjects. The Society is an affiliate member of the American Association for the Advancement of Science, an adherent society of the American Institute of Biological Sciences, is represented in the U. S. National Academy of Sciences-National Research Council, and is a member of the Natural Resources Council of America.

Officers

President . . . . . C. J. Campbell, Fishery Division, State Game Commission, P.O. Box 3503, Portland, Oregon 97208

President-Elect . . . . . Raymond E. Johnson, Bureau of Sport Fisheries and Wildlife, Department of the Interior, Washington, D.C. 20240

First Vice-President . . . . Reeve M. Bailey, Museum of Zoology, The University of Michigan, Ann Arbor, Michigan 48104

Second Vice-President . . . J. Cameron Stevenson, Fisheries Research Board of Canada, 116 Lisgar Street, Ottawa, Ontario, Canada K1A OH3

Executive Secretary . . . . Richard A. Wade, Fourth Floor Suite, 1319 18th Street, N.W., Washington, D.C. 20036

Editorial Board

Editor . . . . . Johanna M. Reinhart, Fourth Floor Suite, 1319 18th Street, N.W., Washington, D.C. 20036

Book Review Editor . . . . John J. Magnuson, Laboratory of Limnology, University of Wisconsin, Madison, Wisconsin 53706

Associate Editors

Grant Beardsley, Florida
W. A. Brungs, Minnesota
Robert S. Campbell, Missouri
Oliver B. Cope, District of Columbia
F. E. J. Fry, Ontario
W. L. Hartman, Ohio
Robert J. Muncy, Iowa
C. R. Walker, Virginia
D. E. Wohlschlag, Texas
Colin K. Harris (Student), Michigan
Larry Olmsted (Student), Arkansas
Bruce Thompson (Student), Louisiana

Membership

Persons or organizations interested in the Society and its objectives are eligible for membership and should apply to the Executive Director. Annual membership dues are $20 for Active Members in North America; $10 for Students enrolled in a college or university; $20 for Foreign Members; $30 for Library Members; $10 for Retired Members (age 65 and over); $100 for Sustaining Members; $100 for Official Members. Life Membership is $300. Payment must be made in U.S. currency or equivalent, made payable to American Fisheries Society and remitted to the Executive Director.

Published at Lawrence, Kansas 66044. Second Class Postage paid at Lawrence, Kansas.

Price per copy: $5.

Printed by Allen Press, Inc., Lawrence, Kansas

© Copyright by the American Fisheries Society, 1973

TABLE OF CONTENTS OF VOLUME 102

NUMBER 1, JANUARY

Exotic Aquatic Organisms in Florida with Emphasis on Fishes: A Review and Recommendations. *Walter R. Courtenay, Jr.* and *C. Richard Robins* 1

An Evaluation of Striped Bass Fingerling Culture. *Earl T. Humphries* and *Kenneth B. Cumming* 13

Electrophoretic Determination of Populations of the Striped Bass, *Morone saxatilis*, in the Upper Chesapeake Bay. *Raymond P. Morgan II, Ted S. Y. Koo,* and *George E. Krantz* 21

A Comparison of the Food of Salamanders and Fish in Marion Lake, British Columbia. *Ian E. Efford* and *Kanji Tsumura* 33

Food Habits and Feeding Chronology of the Blackbanded Darter, *Percina nigrofasciata* (Agassiz), in Halawakee Creek, Alabama. *Dilip Mathur* 48

Towards a Broad Ecological Model of Fish Communities and Fisheries. *Henry A. Regier* and *H. Francis Henderson* 56

Effects of Anhydrous Ammonia on a Central Texas Pond, and a Review of Previous Research with Ammonia in Fisheries Management. *M. A. Champ, J. T. Lock, C. D. Bjork, W. G. Klussmann,* and *J. D. McCullough, Jr.* 73

White Spotting in the 1959 Year-Class of Georges Bank Winter Flounder, *Pseudopleuronectes americanus* (Walbaum). *Fred E. Lux* 83

Temperature Requirements for Embryos and Larvae of the Northern Pike, *Esox lucius* (Linnaeus). *Kenneth E. F. Hokanson, J. Howard McCormick,* and *Bernard R. Jones* 89

Gonadal Maturation and Fecundity of Horse Mackerel *Trachurus murphyi* (Nichols) Off the Coast of Chile. *Carlos E. Kaiser* 101

Variations in Catchability of Fishes with Color of Gillnets. *Douglas B. Jester* 109

The Catching Efficiencies of a 21.3-Meter (Headrope) Standard Wing Trawl and a 21.3-Meter Electrical Wing Trawl in the Saginaw Bay Area of Lake Huron. *James E. Ellis* and *Edward N. Pickering* 116

Relative Recoveries of Hatchery-reared Landlocked Salmon Planted at Different Ages at Schoodic Lake, Maine. *Keith A. Havey* 121

Reduced Metabolic Rates in Fishes as a Result of Induced Schooling. *Faust R. Parker, Jr.* 125

Short Papers and Notes

Tissue O_2 and CO_2 Tensions of Trout in High Altitude Lakes. *Hermann Rahn, O. Douglas Wangensteen,* and *Gerald J. Crowley* 132

Effects of Noise on Eggs and Larvae of Two Estuarine Fishes. *Arnold Banner* and *Martin Hyatt* 134

The Uptake and Persistence of Carbaryl in Channel Catfish. *Sidney Korn* 137

Effect of Light on Vulnerability of Heat-stressed Sockeye Salmon to Predation by Coho Salmon. *J. R. Sylvester* 139

Effects of Temperature on Developing Meristic Structures of Smallmouth Bass, *Micropterus dolomieui* Lacépède. *Charles R. Wallace* 142

Cover as a Factor in Habitat Selection by Juvenile Brown (*Penaeus aztecus*) and White (*P. setiferus*) Shrimp. *Jeffrey H. Giles* and *Gilbert Zamora* 144

Reproductive Characteristics of the Cui-ui Lakesucker (*Chasmistes cujus* Cope) and Its Spawning Behavior in Pyramid Lake, Nevada. *David L. Koch* 145

Spring Food of Chain Pickerel (*Esox niger*) in Maine Lakes. *Kendall Warner* 149

Recovery of Rainbow Trout from Aluminum Poisoning. *Robert A. Freeman* 152

Special Sessions

Application of Theory and Research to Freshwater and Marine Fisheries Management. *Daniel W. Coble* 155

Application of Theory and Research in Fishery Management of the Laurentian Great Lakes. *Stanford H. Smith* 156

Application of Theory and Research to Management of Warmwater Fish Populations. *Richard O. Anderson* 164

The Application of Research to the Management of British Columbia Sockeye Salmon. *K. Radway Allen* 172

The California Sardine–Anchovy Fisheries. *G. B. Talbot* 178

Application of Theory and Research in Freshwater and Marine Fisheries Management Programs—A Discussion of the Papers Given by S. H. Smith, R. O. Anderson, K. R. Allen and G. B. Talbot. *Richard H. Stroud* 188

Application of Theory and Research in Freshwater and Marine Fisheries Management Programs—A Discussion of the Papers Given by S. H. Smith, R. O. Anderson, K. R. Allen, and G. B. Talbot. *John J. Magnuson* 194

Reviews

The Limits to Growth (D. H. Meadows, D. L. Meadows, J. Randers, and W. W. Behrens, III). *Richard A. Parker* 196
Radioactivity in the Marine Environment (National Academy of Sciences). *Thomas W. Duke* 197
Oilspill (Wesley Marx). *Kenneth E. Biglane* 198
Ecology and Economics: Controlling Pollution in the 70's (Marshall I. Goldman, ed.). *Richard H. Day* 199
Biochemical Ecology of Water Pollution (Patrick R. Dugan). *Gilman D. Veith* 199
An Economic Study of the Oyster Fishery of the Maritime Provinces (N. H. Morse).
Paralytic Shellfish Poisoning in Eastern Canada (A. Prakash, J. C. Medcof, and A. D. Tennant).
Pacific Oyster Raft Culture in British Columbia (D. B. Quayle). *Herbert Hidu* 200
The Pilchard, Biology and Exploitation (Michael Culley). *Garth I. Murphy* 201
Marine Food and Game Fishes of California (John E. Fitch and Robert J. Lavenberg). *Richard S. Shomura* 202
Functional Morphology and Classification of Teleostean Fishes (W. A. Gosline). *R. McNeill Alexander* 202
Underwater Science: An Introduction to Experiments by Divers (J. D. Woods and J. N. Lythgoe, eds.). *Edmund S. Hobson* 203
How to Mount Fish (Richard H. Schmidt). *David J. Schwendeman* 204
Hydrobiology: Bioresources of Shallow Water Environments (William G. Weist, Jr. and Phillip E. Greeson, eds.). *C. P. Idyll* 205
Geographical Ecology, Patterns in the Distribution of Species (Robert H. MacArthur). *Ian A. McLaren* 205

Recent Publications 206

One Hundred-Second Annual Meeting of the American Fisheries Society, Arlington Hotel, Hot Springs, 10-13 September 1972 209

Certified Fisheries Scientists 276

NUMBER 2, APRIL

Water Quality and Fish Life Below Sewage Outfalls. *Chu-fa Tsai* 281
Economic Evaluations of Sport Fisheries—What Do They Mean? *D. Gordon, D. W. Chapman,* and *T. C. Bjornn* 293
Development and Application of Spawning Velocity and Depth Criteria for Oregon Salmonids. *Allan K. Smith* 312
Radioactivity in Juvenile Columbia River Salmon: A Model to Distinguish Differences in Movement and Feeding Habits. *Gerald P. Romberg* and *William C. Renfro* 317
Trout Metabolism Characteristics and the Rational Design of Nitrification Facilities for Water Reuse in Hatcheries. *Richard E. Speece* 323
Allele Frequency Analysis of Five Soluble Protein Loci in Brook Trout, *Salvelinus fontinalis* (Mitchill). *Larry R. Eckroat* 335
Purse Seining for Juvenile Salmon and Trout in the Columbia River Estuary. *Richard C. Johnsen* and *Carl W. Sims* 341
Effects of Nutrient Enrichment and a Rough Fish Population (Carp) on a Game Fish Population (Smallmouth Bass). *Terry A. Haines* 346
The Preference of Largemouth Bass (*Micropterus salmoides* Lacépède) for Selected Bait Species under Experimental Conditions. *F. A. Espinosa, Jr.* and *James E. Deacon* 355
Seasonal Energy Changes in Walleye and Their Diet in West Blue Lake, Manitoba. *John R. M. Kelso* 363
The Commercial Fishery for American Eel, *Anguilla rostrata* (Lesueur), in Lake Ontario. *Donal A. Hurley* 369
Food and Feeding Habits of Gizzard Shad in Pool 19, Mississippi River. *David J. Jude* 378
Normal Embryonic Development of the Muskellunge (*Esox masquinongy*). *David L. Galat* 384
Effects of a Smelt Introduction on Growth of Landlocked Salmon at Schoodic Lake, Maine. *Keith A. Havey* 392
Effect of Entrance-Pool Weir Elevation and Fish Density on Passage of Alewives (*Alosa pseudoharengus*) in a Pool and Weir Fishway. *C. L. Dominy* 398
Parasites as Indicators of English Sole (*Parophrys vetulus*) Nursery Grounds. *Robert E. Olson* and *Ivan Pratt* 405
Biological Information on Copper Rockfish in Puget Sound, Washington. *Benjamin G. Patten* 412
Migrations of Tagged Juvenile Atlantic Menhaden. *Richard L. Kroger* and *James F. Guthrie* 417
Biology of Young Winter Flounder *Pseudopleuronectes americanus* (Walbaum); Metabolism Under Simulated Estuarine Conditions. *David W. Frame* 423

Short Papers and Notes

Thermal Tolerance of Two Species of *Gammarus*. *Wesley E. Smith* 431
Production of Juvenile Alewives, *Alosa pseudoharengus*, at Love Lake, Washington County, Maine. *Keith A. Havey* 434
Gross Physical Anomalies in F_1 Progeny of Irradiated and Unirradiated Coho Salmon. *Gary K. Gunstrom* 438
Induced Spawning of Largemouth Bass [*Micropterus salmoides* (Lacépède)]. *Anthony R. Carlson* 442
Effects of the Anabolic Steroid Stanozolol on Growth of Channel Catfish, *Ictalurus punctatus*, and Goldfish, *Carassius auratus*. *Ross V. Bulkley* and *Gary L. Swihart* 444
Fecundity of the White Bass, *Morone chrysops* (Rafinesque), in Beaver Reservoir, Arkansas. *Scott H. Newton* and *Raj V. Kilambi* 446
Age and Rate of Growth of the White Seaperch (*Phanerodon furcatus*) from Tomales Bay, California. *Tapan Banerjee* 448
Effects of Artificial Destratification on Zooplankton in Parvin Lake, Colorado. *Robert T. Lackey* 450
Biostatistical Data Acquisition in the Menhaden Fisheries. *Gene R. Huntsman* and *Robert B. Chapoton* 452
A Portable Observation Chamber for the Study of Fish Behavior. *Arne J. Salli* 456
Fluorescent Pigment and Immersion Stain Marking Techniques for *Lepidomeda mollispinis* and *Cyprinodon nevadensis*. *William E. Rinne* and *James E. Deacon* 459
A Technique for Simultaneous Echo Location of Fish and Thermal Plume Mapping. *S. A. Spigarelli, G. P. Romberg,* and *R. E. Thorne* 462
Sample Size in Sport Fishery Surveys. *Charles W. Caillouet, Jr.* and *James B. Higman* 466
A Versatile and Inexpensive Variable Voltage Pulsator for Electrofishing. *E. N. Smith, B. J. Venables,* and *O. T. Lind* 468

Special Sessions

Management of Fisheries; Ecological Subsystems. *L. M. Dickie* 470
Economic and Political Objectives in Fishery Management. *James A. Crutchfield* 481
Optimization in Complex Management Systems. *W. Allen Spivey* 492

Reviews

The Fish Resources of the Ocean (J. A. Gulland, ed.). *James Joseph* 500
Growth and Ecology of Fish Populations (A. H. Weatherley). *Donald W. Chapman* 501
Diseases of Fish (L. E. Mawdesley-Thomas, ed.). *James W. Warren* 502
Marine Ecology: a comprehensive, integrated treatise on life in oceans and coastal waters. Volume I: Environmental Factors, Part 2. (Otto Kinne, ed.). *Malcolm S. Gordon* 503
Marine Ecology: a comprehensive, integrated treatise on life in oceans and coastal waters. Volume I: Environmental Factors, Part 3. (Otto Kinne, ed.). *John Teal* 504
Diving for Science (Edward H. Shenton). *Donald W. Strasburg* 505
The Biology of Lampreys, Volume 2. (M. W. Hardisty and I. C. Potter). *E. Don Stevens* 506
The Biology of a Marine Copepod (S. M. Marshall and O. P. Orr). *David H. Cushing* 507

Recent Publications 508

Number 3, July

Food Habits of Juvenile Marine Fishes Occupying Seagrass Beds in the Estuarine Zone Near Crystal River, Florida. *William E. S. Carr* and *Clayton A. Adams* 511
Distribution of Pelagic Fishes in the Sheepscot River—Back River Estuary, Wiscasset, Maine. *Conrad W. Recksiek* and *James D. McCleave* 541
The Fishes of the Shore Zone of Rehoboth and Indian River Bays, Delaware. *W. Kenneth Derickson* and *Kent S. Price, Jr.* 552
The Efficacy of Midwater Artificial Structures for Attracting Pelagic Sport Fish. *Donald A. Wickham, John W. Watson, Jr.,* and *Larry H. Ogren* 563
Annual Cycle of Sportfishing Activity at a Warmwater Discharge into Galveston Bay, Texas. *Andre M. Landry, Jr.* and *Kirk Strawn* 573
A Population Study by Proteins from the Nucleus of Bluefin Tuna Eye Lens. *Albert C. Smith* and *Harold B. Clemens* 578
Age, Growth and Distribution of the Black Drum (*Pogonias cromis*) in Virginia. *C. E. Richards* 584
Age and Growth of Horse Mackerel *Trachurus murphyi* off Chile. *Carlos E. Kaiser* 591
A Fin Rot Disease of Marine and Euryhaline Fishes in the New York Bight. *John B. Mahoney, Frederick H. Midlige,* and *David G. Deuel* 596
The Chemical Oxygen Demand of Waters and Biological Materials from Ponds. *Claude E. Boyd* 606

Short Papers and Notes

Sexual Dimorphism in Number of Rostral Teeth of the Sawfish, *Pristis perotteti* Müller and Henle, 1841. *Thomas B. Thorson* 612
Conversion Efficiency and Survival of Young Winter Flounder (*Pseudopleuronectes americanus*) Under Experimental Conditions. *David W. Frame* 614
Growth Rate of a Carangid Fish, the Omaka *Caranx mate*, in Hawaii. *Lloyd T. Watarai* 617
Spawning Migration and Intragravel Movement of the Torrent Sculpin, *Cottus rhotheus*. *Allan E. Thomas* 620
Production Response of the Bluegill Sunfish, *Lepomis macrochirus* Rafinesque, to Added Attachment Surface for Fish-Food Organisms. *Garland B. Pardue* 622
Upstream Changes in Fish Populations Following Impoundment of Sagehen Creek, California. *Don C. Erman* 626
Influence of Low Level Handling Stress on Nitrogen Excretion of Bluegill Sunfish (*Lepomis macrochirus* Rafinesque). *J. Savitz* 629
Toxicity of the Herbicide Kuron® (Silvex) to Bluegill Eggs and Fry. *Robert L. Wilbur* and *Eugene W. Whitney* 630
Short-Term Effects of Three Different Marks on the Recapture and Survival of the Alewife, *Alosa pseudoharengus*. *C. L. Dominy* and *G. L. Myatt* 633
Effects of Topical Location, Branding Techniques and Changes in Hue on Recognition of Cold Brands in Centrarchid and Salmonid Fish. *R. F. Raleigh, J. B. McLaren,* and *D. R. Graff* 637
A Comparison Between Actual and Reported Angling Times. *D. S. Radford* 641
Spin-Drying of Preserved Fishes and Macroinvertebrates. *William H. Herke* 643
An Automated Device for Feeding Aquatic Organisms. *Randall Rode* 645

Special Sessions

Innovative Teaching in Fisheries Science. *Robert T. Lackey* 647
An Undergraduate Fisheries Curriculum. *William F. Royce* 649
Present Educational Needs in Fishery Biology. *Alfred W. Eipper* 652
Computer Teaching Exercises in Fisheries Science. *Carl B. Schreck* and *W. Harry Everhart* 656
Heuristic Teaching Environments: A Design Document. *Robert H. Giles, Jr.* and *Stanley A. Huffman, Jr.* 658

Comments

Editorial Comment. *Johanna M. Reinhart* 663
Comments on *Introduction to the Fishery Sciences* (D. W. Chapman). *William F. Royce* 663
Introduction to the Fishery Sciences: A Reply. *D. W. Chapman* 664

Reviews

Conservation and Productivity of Natural Waters. (R. E. Edwards and D. J. Garrod, eds.). *Rezneat M. Darnell* 666
Systems Analysis and Simulation in Ecology, Volume II. (Bernard C. Patten, ed.). *B. W. Mar* 667
Chinese Freshwater Fish Culture (Chung-kuo tan shui yü lei yang chih hsüeh) [in Chinese]. (Chinese Academy of Sciences). *Tyson R. Roberts, Choon-Ho Park,* and *Robert Straus* 668
Pacific Marine Fishes. Book 1. (By Fujio Yasuda and Yoshio Hiyama. Warren Burgess and Herbert R. Axelrod, eds.). *Leslie W. Knapp* 669

Recent Publications 670

Instructions to Contributors 672

NUMBER 4, OCTOBER

Potential Productivity of an Alpine Lake as Indicated by Removal and Reintroduction of Fish. *Carl J. Walters* and *Robert E. Vincent* 675
Primary Production and Limiting Nutrients in a Small, Subalpine Wyoming Lake. *John F. Wagner* and *Michael Parker* 698
The Influence of Fish on the Distribution of *Chaoborus* spp. (Diptera) and Density of Larvae in the Matamek River System, Quebec. *G. F. Pope, J. C. H. Carter,* and *G. Power* 707
Effects of Artificial Hypolimnion Aeration on Rainbow Trout (*Salmo gairdneri* Richardson) Depth Distribution. *Arlo W. Fast* 715
Travel Time and Influencing Factors for Migrating Adult Sockeye Salmon in Karluk River, Alaska. *Richard Gard* 723

Population Dynamics of Hatchery-Reared Landlocked Salmon, *Salmo salar*, at Schoodic Lake, Maine. *Keith A. Havey and Philip S. Andrews* 728
Cannibalism as a Factor in First Year Survival of Walleye in Oneida Lake. *John R. Chevalier* 739
The Effects of Angling and Hatchery Trout on the Abundance of Juvenile Steelhead Trout. *Herbert A. Pollard, II* and *Ted C. Bjornn* 745
Effects of Fin Removal on Survival and Growth of Rainbow Trout (*Salmo gairdneri*) in a Natural Environment. *Stephen J. Nicola* and *Almo J. Cordone* 753
Evacuation Rates of Young Yellow Perch, *Perca flavescens* (Mitchill). *Richard L. Noble* 759
Food Habits of the Mountain Whitefish, *Prosopium williamsoni* (Girard). *Richard W. Pontius* and *Michael Parker* 764
Absorption by Channel Catfish of Earthy-musty Flavor Compounds Synthesized by Cultures of Blue-green Algae. *Richard T. Lovell* and *Lewis A. Sackey* 774
The Relative Efficiency of Nylon Gill Nets After Transition From Cotton Nets in a Multispecies Fishery. *Walter J. Högman* 778
Reproduction of the Silverjaw Minnow, *Ericymba buccata* Cope. *Dale C. Wallace* 786
Ecological Segregation Among Three Species of Minnows (Cyprinidae) in a Minnesota Lake. *Peter B. Moyle* 794
The Effects of Dibrom on Respiratory Activity of the Stonefly, *Hydroperla crosbyi*, Hellgrammite, *Corydalus cornutus* and the Golden Shiner, *Notemigonus crysoleucas*. *Alan W. Maki, Kenneth W. Stewart*, and *J. K. G. Silvey* 806
Attracting and Controlling Coastal Pelagic Fish with Nightlights. *Donald A. Wickham* 816

Short Papers and Notes

Brackish Water Cage Culture of Rainbow Trout (*Salmo gairdneri*), in South Alabama. *Walter M. Tatum* 826
Acute Toxicities of Antimycin A, Bayer 73, and TFM to the Ostracod *Cypretta kawatai*. *Joseph A. Kawatski* 829
Determination of Apparent Protein Digestibility in Feeds for Channel Catfish. *Barry W. Smith* and *R. T. Lovell* 831
The Influence of Dissolved Oxygen on the Growth of Channel Catfish. *James W. Andrews, Takeshi Murai*, and *George Gibbons* 835
Notes on the Upper Lethal Temperature of The Duskystripe Shiner, *Notropis pilsbryi*, and the Bluegill, *Lepomis macrochirus*. *Gary D. Hickman* and *Michael R. Dewey* 838
Some Field Measurements on Minnow Schools. *T. J. Pitcher* 840
Contribution to the Biology of the Silk Snapper *Lutjanus vivanus* from the Virgin Islands. *J. R. Sylvester* and *A. E. Dammann* 843
Twinning in *Porichthys notatus* Girard. *Robert Rhea Stephens* 846
A Technique for Detection of Brushed Lobsters by Staining of Cement on Swimmerets. *John Karlsson* and *Richard Sisson* 847
Juvenile Yellowfin Menhaden from the Bahama Islands. *Eldon J. Levi* 848

Reviews

Aquatic Oligochaeta of the World. (R. O. Brinkhurst and B. G. M. Jamieson, with contributions by D. G. Cook, D. V. Anderson, and J. van der Land). *Jarl K. Hiltunen* 850
The Life of Sharks. (Paul Budker, English version by Peter J. Whitehead). *Albert L. Tester* 851
Textbook of Fish Culture: Breeding and Cultivation of Fish. (Marcel Huet, in collaboration with J. A. Timmermans. Translated by Henry Kahn). *H. S. Swingle* 852
Fate of Organic Pesticides in the Aquatic Environment. (Robert F. Gould, ed.). *Donald I. Mount* 853
Endocrines and Osmoregulation: A Comparative Account of the Regulation of Water and Salt in Vertebrates. (P. J. Bentley). *Jon G. Stanley* 853
Research Methods in Marine Biology. (Carl Schlieper, ed.). *Robert W. Pennak* 854
Coastal Zone Management: Multiple Use with Conservation. (J. F. Peel Brahtz, ed.). *Wynnlee Crisp* 855

Recent Publications 856

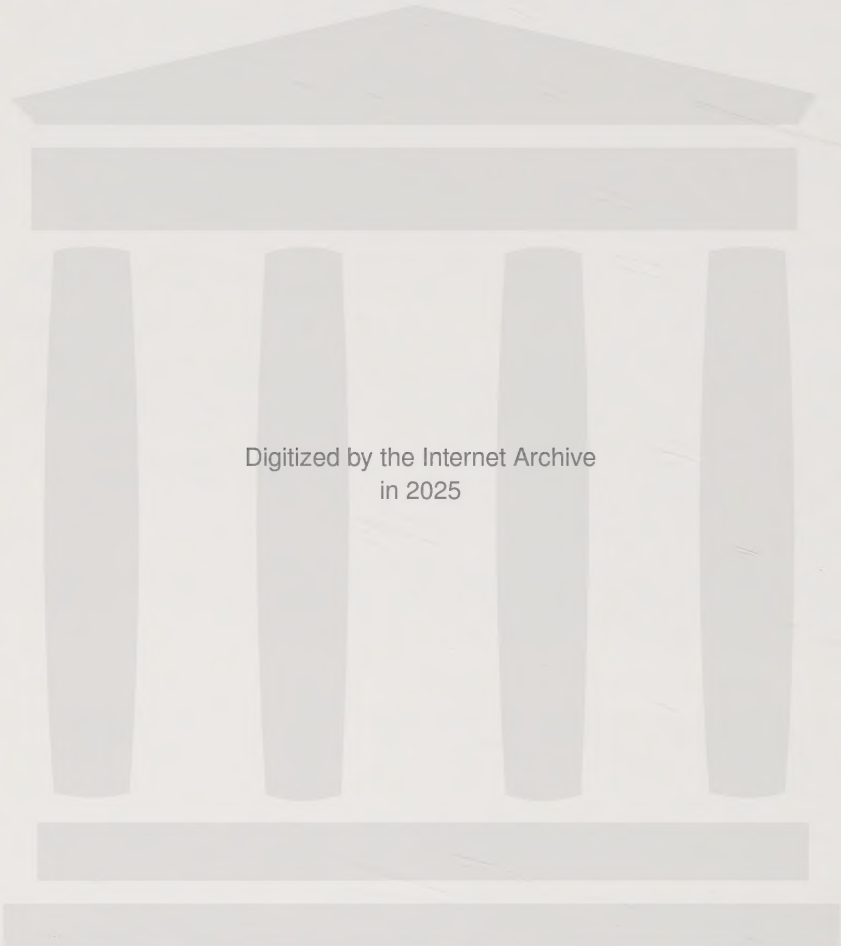
Acknowledgment for Referees 859

In Memoriam 861

Corrections to recent issues of Transactions of the American Fisheries Society 861

Index to Volume 102 862

Table of Contents, Volume 102 iii



Digitized by the Internet Archive
in 2025

https://archive.org/details/american-fisheries-society-transactions_1973_102_contents